CONDITION

Peptic ulcer

A peptic ulcer is an open sore in the lining of the stomach or upper small intestine.

WHAT IT IS
Open sore in the stomach or upper small intestine

BODY SYSTEM
Digestive system

MAIN SYMPTOMS
Upper abdominal pain, nausea, bloating, early fullness

WHAT CAUSES IT
H. pylori infection or anti-inflammatory medicines

HOW IT IS DIAGNOSED
Upper endoscopy, with H. pylori testing

MAIN TREATMENT
Acid suppression and treatment of the cause

CAN IT BE CURED?
Yes - most heal when the cause is treated

IS IT AN EMERGENCY?
Sometimes - vomiting blood, black stools, or sudden severe pain

LONG-TERM OUTLOOK
Most heal; recurrence falls after cause removal

Overview

A peptic ulcer is an open sore in the protective lining of the stomach or the duodenum, which is the first part of the small intestine. An ulcer in the stomach is called a gastric ulcer. One in the duodenum is called a duodenal ulcer.

The stomach makes strong acid to digest food. A layer of mucus normally protects the stomach and duodenum from this acid. An ulcer can form when that protection is damaged or when acid overwhelms it.

The two main causes are infection with Helicobacter pylori , usually called H. pylori , and medicines known as non-steroidal anti-inflammatory drugs like ibuprofen or naproxen , or NSAIDs. NSAIDs include ibuprofen, naproxen, and aspirin.

Most peptic ulcers heal with treatment. Finding and treating the cause matters because an

untreated ulcer can return or lead to bleeding. Less often, an ulcer can make a hole through the digestive tract or block food from leaving the stomach.

Symptoms

The most common symptom is pain or discomfort in the upper abdomen, between the breastbone and belly button. It may feel burning, aching, or gnawing. The pain may come and go.

Food can affect ulcer pain in different ways. Eating may briefly ease duodenal ulcer pain, while a stomach ulcer may hurt more after food. This pattern is not reliable enough to identify the ulcer's location.

Other possible symptoms include:

Some ulcers cause few or no symptoms until they bleed. This is more likely in older adults and people taking NSAIDs.

Slow bleeding may cause tiredness, breathlessness, pale skin, or weakness because of anaemia, meaning too few healthy red blood cells. Faster bleeding may cause black, sticky stools or vomit containing blood.

- Feeling full sooner than expected
- Bloating, burping, or nausea
- Indigestion or heartburn-like discomfort
- Reduced appetite
- Unplanned weight loss

Causes and risk factors

H. pylori is a bacterium that can live in the stomach lining. It causes long-lasting inflammation and weakens the lining's protection against acid. Many people acquire the infection in childhood, although not everyone with it develops an ulcer.

NSAIDs reduce substances that help protect the stomach and duodenum. Ulcer risk is higher with longer use, higher doses, or more than one NSAID. Risk can also be higher in older adults and in people with a past ulcer or digestive tract bleeding.

Low-dose aspirin can also cause ulcers and bleeding. If aspirin was prescribed to prevent a heart attack or stroke, do not stop it on your own. Its benefits and risks need to be considered

together.

Smoking can slow ulcer healing and may raise the chance of recurrence. Heavy alcohol use can irritate the stomach lining and may increase bleeding risk, especially when combined with NSAIDs.

Everyday emotional stress and spicy food do not usually cause peptic ulcers. Severe physical stress from critical illness, major burns, or serious injury can cause a different type of ulcer, usually in people receiving hospital care.

Rare causes include conditions that make the stomach produce unusually large amounts of acid, such as Zollinger-Ellison syndrome. Some ulcers have no clear cause even after evaluation.

Diagnosis

Your symptoms alone cannot confirm a peptic ulcer because indigestion, acid reflux, gallbladder problems, and other conditions can feel similar.

An upper endoscopy is the main test used to see and confirm an ulcer. During this procedure, a thin flexible tube with a camera is passed through the mouth into the stomach and duodenum. Sedation is often used to make the procedure more comfortable.

Small tissue samples, called biopsies, may be taken during endoscopy. These can be tested for H. pylori . A stomach ulcer may also be biopsied because some cancers can look like an ulcer. Most peptic ulcers are not cancer.

H. pylori can also be detected with a urea breath test or stool antigen test. These tests look for an active infection. Blood antibody tests may remain positive after an old infection has cleared, so they are less useful for confirming current infection or successful treatment.

Acid-suppressing medicines, antibiotics like amoxicillin or doxycycline , and bismuth can affect some H. pylori test results. You may receive instructions about pausing certain medicines before testing. Do not change prescribed medicines without guidance.

Blood tests may be used to check for anaemia. Testing vomit or stool for blood may also be needed if bleeding is suspected.

Treatment and management

Treatment aims to heal the ulcer, control symptoms, and remove or reduce its cause.

A proton pump inhibitor, or PPI, is commonly used to reduce stomach acid. Less acid gives the

damaged lining time to heal. Another type of acid-reducing medicine like omeprazole or lansoprazole , called an H2 blocker, may be used in some situations.

If H. pylori is present, treatment uses a combination of antibiotics and acid suppression. Bismuth may also be included. The exact combination is chosen according to factors such as previous antibiotic exposure, allergies, and local antibiotic resistance.

It is important to complete the full course as directed, even if symptoms improve early. A breath or stool test is usually used later to confirm that the infection has cleared. Symptoms alone cannot show whether treatment worked.

If an NSAID caused or contributed to the ulcer, it may need to be stopped, changed, or reduced. Some people still need aspirin or another anti-inflammatory medicine because of a heart, circulation, or joint condition. In that situation, the benefits and risks can be reviewed, and protective acid-suppressing treatment may be considered.

A bleeding ulcer may be treated during endoscopy. The clinician can seal the bleeding area using methods such as clips, heat, or injected medicine. Severe bleeding may also require fluids, blood transfusion, or, less often, radiology treatment or surgery.

A stomach ulcer sometimes needs another endoscopy to confirm healing and make sure there is no other cause. Whether this is needed is based on the ulcer's appearance, biopsy results, symptoms, and risk factors.

There is no standard "ulcer diet." Regular meals and avoiding foods that clearly worsen your own symptoms may help with comfort, but diet does not replace treatment of H. pylori or medicine-related injury.

Complications

Most ulcers do not cause serious complications, particularly when the cause is treated.

Possible complications include:

A perforation or major bleed requires emergency treatment. Repeated ulcers can also lead to ongoing pain, reduced eating, or recurrent anaemia.

- Bleeding: This may be slow and cause anaemia, or sudden and more obvious
- Perforation: The ulcer makes a hole through the stomach or duodenal wall
- Penetration: The ulcer extends into a nearby organ, such as the pancreas
- Obstruction: Swelling or scarring blocks food from leaving the stomach

Prevention

Not every peptic ulcer can be prevented. There is no vaccine against H. pylori , and people may carry the infection without knowing it. Treating a confirmed infection lowers the chance of an ulcer returning.

If you use NSAIDs, take only the amount recommended and avoid combining different NSAIDs unless specifically advised. Check cold, flu, and pain products because some contain an NSAID without making this obvious.

Do not start or stop prescribed aspirin without discussing the reason it was prescribed. For people at higher risk of ulcers, a different pain medicine or an acid-suppressing medicine may be considered.

Not smoking can support healing and reduce recurrence. Limiting alcohol may reduce stomach irritation and the risk created by combining alcohol with NSAIDs.

Avoiding spicy foods does not prevent ulcers unless those foods aggravate your symptoms.

Living with it and what to expect

Many peptic ulcers heal over weeks after acid is reduced and the cause is addressed. Pain may improve before the ulcer has fully healed, so continue treatment and follow-up as advised.

After successful H. pylori treatment, recurrence is less likely unless the infection remains or is acquired again. A follow-up test is important because treatment does not always clear the bacterium on the first attempt.

If you need ongoing NSAID or aspirin treatment, the risk may remain. You may need periodic review of pain medicines, stomach protection, and symptoms of bleeding.

Persistent or returning discomfort does not always mean that the ulcer is still present. Acid reflux, functional indigestion, gallstones, and other conditions can cause similar symptoms. Further assessment may be needed rather than simply repeating ulcer treatment.

Most people can return to their usual food, work, exercise, and daily activities after healing. Long-term restrictions are not usually necessary, although avoiding smoking and unnecessary NSAID use remains helpful.

When to get medical help

Arrange a routine medical appointment if you have continuing or recurring upper abdominal

pain, nausea, early fullness, or indigestion. Assessment is also important if symptoms start while you are taking an NSAID or aspirin.

Seek prompt medical advice for:

Get emergency help for vomiting bright red blood or material that looks like coffee grounds. Black, sticky, tar-like stools can also indicate bleeding and need urgent assessment.

Sudden, severe abdominal pain may mean that an ulcer has perforated. Emergency warning signs also include fainting, marked dizziness, confusion, clammy skin, a rapid heartbeat, or severe weakness, especially with signs of bleeding.

- Unplanned weight loss
- Repeated vomiting
- Trouble or pain when swallowing
- Ongoing loss of appetite
- Unusual tiredness, weakness, or breathlessness
- Symptoms that continue despite treatment
- A previous ulcer with returning symptoms

Common questions

Can a peptic ulcer heal on its own?

Symptoms may settle without treatment, but the ulcer or its cause may remain. An untreated H. pylori infection or continued NSAID use can lead to recurrence or complications. Proper assessment and treatment improve the chance of lasting healing.

Is a stomach ulcer cancer?

Most stomach ulcers are not cancer. However, stomach cancer can sometimes resemble an ulcer, which is why tissue samples may be taken during endoscopy. Duodenal ulcers are very rarely cancerous.

What foods should I avoid with an ulcer?

There is no single ulcer diet. Avoid foods or drinks that reliably worsen your pain, nausea, or reflux. Common personal triggers include alcohol, coffee, or spicy and fatty foods, but these do not affect everyone. Food changes cannot clear H. pylori .

How long does a peptic ulcer take to heal?

Many ulcers heal over several weeks, but the time is influenced by their size, location, cause,

and whether NSAID use continues. Feeling better does not prove that the ulcer or H. pylori infection has gone.

* Is H. pylori contagious? *

The bacterium can spread between people, probably through contact with saliva, vomit, or stool. Transmission is more common where people live closely together or have limited access to clean water and sanitation. Having an infected household member does not mean you will necessarily develop an ulcer.

Can stress make an ulcer worse?

Everyday stress is not a main cause of peptic ulcers. It can affect sleep, eating, smoking, alcohol use, and how strongly pain is felt, so symptoms may seem worse during stressful periods. Severe physical illness can cause stress-related ulcers in hospital patients.

Sources

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